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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SCHEIBEL, ROBERT C

ART UNIT	PAPER NUMBER
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2666

DATE MAILED: 01/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/821,776

Applicant(s)

SAINT-HILAIRE ET AL.

Examiner

Robert C. Scheibel

Art Unit

2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the specification does not describe the first, second, and third mechanisms of claims 17-22. It is unclear what these mechanisms represent, how they interact, and how they behave. As a specific example, it is unclear how the second amount is altered based on the first amount.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims **18 and 19** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Both claims are vague and indefinite. Regarding claim 18, it is unclear what is meant by the first mechanism communicating the second amount to the second mechanism. Regarding claim 19, it is unclear what is meant by the first mechanism being accessible by the destination.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35

6. U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims **1-3, 5-7, 9-11, 13-15, 17-19, 21, 23 and 25-27** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,751,719 to Chen et al in view of U.S. Patent 6,161,123 to Renouard et al.

Regarding claims **1 and 9**, Chen discloses the step and instruction of altering a record in Figure 6A; if an ack is received, the value of L and Ltemp are updated in the transmitter. Chen also discloses the step of transmitting information based on the record after the new connection is established in steps 216 and 218 of figure 3C.

Regarding claim **17**, Chen discloses the first mechanism in the counter L, the second mechanism in the counter H, and the third mechanism in steps 216 and 218 of figure 3C.

Regarding claim **23**, Chen discloses the step of maintaining a count in the updating of the value of H stored in the RAM 22 of figure 5A and described in column 9, line 62 through column 10, line 10. Chen discloses the step of receiving an

acknowledgement in step 309 of Figure 6A and the step of altering the count of information in step 310 of Figure 6A. Chen discloses the step of establishing a new link in step 210 of figure 3C. Chen also discloses the step of determining what information to transmit based on the count in steps 216 and 218 of Figure 3C.

Chen does not disclose expressly the transmitter being the mobile unit. Renouard discloses a similar method for avoiding unnecessary retransmissions. Renouard further teaches (in column 12, lines 33-35) that this method can be applied whether the mobile unit (client) is the transmitter or the receiver.

Chen and Renouard are analogous art because they are from the same field of endeavor of reliable data communications in the presence of disconnections in the physical communication path between the transmitter and receiver.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Chen by applying the same method for transmitting from element 80 to element 20 of figure 1. The motivation for doing so would have been to enable data to be reliably transmitted both to **and** from a mobile device. This is suggested in column 12, lines 33-35 of Renouard.

Therefore, it would have been obvious to combine Renouard with Chen for the benefit of transmitting to and from a mobile device to obtain the invention as specified in claims 1, 9, 17, and 23.

Regarding claims **2 and 10**, Chen discloses the record including an amount of information transmitted in the updating of H stored in the RAM 22 of figure 5A and described in column 9, line 62 through column 10, line 10.

Regarding claims **3, 11, and 27**, Chen discloses the acknowledgement including the amount of received information in the L_r value described in lines 57-61 of column 11.

Regarding claims **5, 13, 21, and 25**, Chen discloses transmitting after a new connection is established by starting with the information adjacent to that last received in lines 55-59 of column 6.

Regarding claims **6 and 14**, Chen discloses removing the received information from the record by updating the value of L as shown in Figure 6A. The value of L defines the lower boundary of the window of information that has yet to be acknowledged by the receiver. The acknowledged data is effectively removed from this window when it is updated as shown in figure 6A. This is consistent with applicant's description that removing the information from the buffer does not necessarily mean deleting the information from memory (see paragraph 47 on page 17 of the application.)

Regarding claims **7, 15, and 26**, Chen discloses the link being a reliable link. The entire invention discusses a data file transfer as a primary example (for example, see lines 18-25 of column 2). It is well known that when transferring a file, data loss is not acceptable and therefore, the link discussed in Chen is reliable. This is further suggested in lines 6-10 of column 2 where Chen discusses the necessity (in the prior art) of retransmitting an entire file if part of it is not received.

Regarding claim **18**, Chen teaches a means for modifying H based on the value of L . In this way, the mechanism updating L (counter) is communicating input to the second mechanism (for updating H) to enable the new value of H to be calculated.

Regarding claim **19**, the value of L is based on acknowledgements from the destination. In this way, the value is accessible to the destination.

8. Claims **1-27** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,751,719 to Chen et al in view of U.S. Patent 6,522,880 to Verma, et al.

Regarding claims **1 and 9**, Chen discloses the step and instruction of altering a record in Figure 6A; if an ack is received, the value of L and Ltemp are updated in the transmitter. Chen also discloses the step of transmitting information based on the record after the new connection is established in steps 216 and 218 of figure 3C.

Regarding claim **17**, Chen discloses the first mechanism in the counter L, the second mechanism in the counter H, and the third mechanism in steps 216 and 218 of figure 3C.

Regarding claim **23**, Chen discloses the step of maintaining a count in the updating of the value of H stored in the RAM 22 of figure 5A and described in column 9, line 62 through column 10, line 10. Chen discloses the step of receiving an acknowledgement in step 309 of Figure 6A and the step of altering the count of information in step 310 of Figure 6A. Chen discloses the step of establishing a new link in step 210 of figure 3C. Chen also discloses the step of determining what information to transmit based on the count in steps 216 and 218 of Figure 3C.

Chen does not disclose expressly the transmitter being the mobile unit. Verma discloses a method for maintaining a session between a mobile node 20 and a tunnel endpoint server 50 or 250 in the presence of mobile handovers. This session is bi-

directional as shown in figure 7. This bi-directional nature of the session discloses the mobile unit functioning as a transmitter.

Chen and Verma are analogous art because they are from the same field of endeavor of maintaining data communications in the presence of a disconnection of one of the links in a route between two end points.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Chen by applying the same method for transmitting from element 80 to element 20 of figure 1. The motivation for doing so would have been to enable data to be reliably transmitted both to **and** from a mobile device. This is suggested by the bi-directional links shown in Figure 7 of Verma.

Therefore, it would have been obvious to combine Verma with Chen for the benefit of transmitting to and from a mobile device to obtain the invention as specified in claims 1, 9, 17, and 23.

Regarding claims **4, 12, 20, and 24**, with the features of the parent claims 1, 9, 17, and 23 addressed above, Chen does not disclose expressly the step of transmitting information starting with the information adjacent to the most recently transmitted data. Verma discloses transmitting information from the mobile unit to the destination starting with the information adjacent to the most recently transmitted to the destination in lines 16-19 of column 10.

Chen and Verma are analogous art because they are from the same field of endeavor of maintaining data communications in the presence of a disconnection of one of the links in a route between two end points.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Chen by transmitting the packet after the one most recently transmitted (H+1) while waiting for the status messages of step 214 of figure 3C. The motivation for doing this would have been to minimize the recovery from the disconnection. This would be extremely beneficial in the case where no packets were lost in transmission, and only the acknowledgements were lost due to the disconnection of the link.

Therefore, it would have been obvious to combine Verma with Chen for the benefit of minimizing the recovery from disconnection to obtain the invention as specified in claims 4, 12, 20, and 24.

Regarding claims **8, 16, and 22**, with the features of the parent claims 1, 9, and 17 addressed above, Chen does not disclose expressly the limitation of the destination including a home network associated with the mobile unit. Verma discloses the limitation of the destination including a home network. The tunnel endpoint server (50 or 250) is the "home agent" for the mobile node as indicated in lines 24-27 of column 2. Lines 52-55 further indicate that the home agent is used to connect the home subnet with the mobile node.

Chen and Verma are analogous art because they are from the same field of endeavor of maintaining data communications in the presence of a disconnection of one of the links in a route between two end points.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Chen by making element 20 a home agent. The motivation for

doing this would be to provide mobile connectivity to the mobile node's home network using a protocol such as "Mobile IP". This would allow the mobile unit 80 to access its home network while not physically connected to this network. This is suggested in lines 13-40 of column 1 of Verma.

Therefore, it would have been obvious to combine Verma with Chen for the benefit of mobile connectivity to a home network to obtain the invention as specified in claims 8 and 16.

Regarding claims **2 and 10**, Chen discloses the record including an amount of information transmitted in the updating of H stored in the RAM 22 of figure 5A and described in column 9, line 62 through column 10, line 10.

Regarding claims **3, 11, and 27**, Chen discloses the acknowledgement including the amount of received information in the L_r value described in lines 57-61 of column 11.

Regarding claims **5, 13, 21, and 25**, Chen discloses transmitting after a new connection is established by starting with the information adjacent to that last received in lines 55-59 of column 6.

Regarding claims **6 and 14**, Chen discloses removing the received information from the record by updating the value of L as shown in Figure 6A. The value of L defines the lower boundary of the window of information that has yet to be acknowledged by the receiver. The acknowledged data is effectively removed from this window when it is updated as shown in figure 6A. This is consistent with applicant's description that removing the information from the buffer does not necessarily mean deleting the information from memory (see paragraph 47 on page 17 of the application.)

Regarding claims **7, 15, and 26**, Chen discloses the link being a reliable link. The entire invention discusses a data file transfer as a primary example (for example, see lines 18-25 of column 2). It is well known that when transferring a file, data loss is not acceptable and therefore, the link discussed in Chen is reliable. This is further suggested in lines 6-10 of column 2 where Chen discusses the necessity (in the prior art) of retransmitting an entire file if part of it is not received.

Regarding claim **18**, Chen teaches a means for modifying H based on the value of L. In this way, the mechanism updating L (counter) is communicating input to the second mechanism (for updating H) to enable the new value of H to be calculated.

Regarding claim **19**, the value of L is based on acknowledgements from the destination. In this way, the value is accessible to the destination.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 5,564,070 to Want et al, U.S. Patent 6,418,128 to Takagi et al, U.S. Patent 6,137,802 to Jones et al, U.S. Patent 5,212,806 to Natarajan, and U.S. Patent 6,678,523 to Ghosh et al all teach methods similar to the claimed invention for handling disconnections or handoffs while maintaining connectivity to a host. Woo and Leung teach a modification to the Mobile-IP protocol to better handle handoffs.

Art Unit: 2666

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert C. Scheibel whose telephone number is 703-305-9062. The examiner can normally be reached on 6:30-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached on 703-308-5463. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

RCS 1-23-04

Robert C. Scheibel
Examiner
Art Unit 2666

Seema S. Rao
SEEMA S. RAO 1/23/03

**SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800**